



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,429	12/03/2003	Mahesan Chelvayohan	2003-0061.01	5820

21972 7590 10/05/2005

LEXMARK INTERNATIONAL, INC.  
INTELLECTUAL PROPERTY LAW DEPARTMENT  
740 WEST NEW CIRCLE ROAD  
BLDG. 082-1  
LEXINGTON, KY 40550-0999

EXAMINER

MORRISON, THOMAS A

ART UNIT

PAPER NUMBER

3653

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

*mu*

**Office Action Summary**

Application No.

10/726,429

Applicant(s)

CHELVAYOHAN, MAHESAN

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-9,11,12 and 18 is/are rejected.
- 7) ☐ Claim(s) 3-5,10 and 13-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/3/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the specific structural relationship between the sense surface of the print media detection device, the slot of the mid-frame and the print media support, which allows the sense surface to be positioned in or not positioned in the slot, based upon the presence of print media. What structural relationship in claim 2 allows this function to occur? Further clarification of the structure in claim 2 is needed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3653

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 20040135106 (Bolash et al.).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Figs.1-5D show an imaging apparatus, including  
a sensor (16);  
a carrier system (numbered paragraph [0034]) configured to transport the sensor (16) along a scanning path;  
a mid-frame (including 34 and 34) having a slot formed along the scanning path;  
a print media support (20) for holding a supply of print media; and  
a print media detection device (72) positioned below the mid-frame (including 34 and 34),  
the print media detection device (72) including a first end (upper face of 72 with sheets stacked thereon) and a second end (rear face of 72), the first end (upper face of 72) having a sense surface (surface of upper face), wherein the sensor (16) senses one

of a presence and an absence of the sense surface (i.e., sensor 16 senses the presence of the upper face of 72, when there are no more sheets left) in the slot of the mid-frame (including 34 and 34) as a determination of the depletion of the supply of print media at the print media support (72). See, e.g., numbered paragraph [0033] of U.S. Patent Publication No. 20040135106 for an explanation of determining presence or absence of sheets. Regarding the slot limitation, looking at the imaging apparatus as shown in Fig. 1, there is a space defined between the two members (34) and (34), which can be considered "a slot". The members (34) and (34) are shown schematically as cut off, but they actually extend outwardly in the both directions 36 from element (24). As such, the sensor (16) shown in Fig. 1 is located between members (34) and (34) in the slot. Thus, the sensor (16) is located in the slot and senses the sense surface (upper face of 72) within the slot.

Regarding claim 8, Fig. 2 shows that sensor (16) includes element (80), and numbered paragraph [0040] discloses that element (80) has an optical sensor (124).

Regarding claim 9, Fig. 1 show that the carrier system includes a printhead carrier (24) configured to carry at least one ink jet printhead (28), the sensor (16) being mounted to the printhead carrier (numbered paragraph [0034]).

3. Claims 11-12 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,897,112 (Kwag).

Regarding claim 11, Fig. 3 discloses a method for performing print media depletion detection in an imaging apparatus, including the steps of  
providing a mid-frame (130) having a slot (near 131);

providing a sensor (60) locatable over the slot (near 131);  
providing a print media support (200) for holding a supply of print media;  
providing a print media detection device (52) having a sense surface; and  
detecting with the sensor (60) one of a presence and an absence of the sense surface (near 52) in the slot (near 131) of the mid-frame (130) as a determination of the depletion of the supply of print media at the print media support (200).

Regarding claim 12, Fig. 6 shows that when the print media is present at the print media support (200), the sense surface (near 52) is not positioned in the slot (near 131) of the mid-frame (130), and wherein if the print media is not present at the print media support (200), the sense surface (near 52) is positioned in the slot (near 131) of the mid-frame (130) for detection by the sensor (60). See Figs. 3 and 6.

Regarding claim 18, column 4, line 16 discloses that the sensor (60) is an optical sensor.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over U.S.

Patent Publication No. 20040135106.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claim 7, U.S. Patent Publication No. 20040135106 discloses the claimed invention except for the print media support (20) being a front-loading print media tray. It would have been an obvious matter of design choice to provide the imaging apparatus of U.S. Patent Publication No. 20040135106 with a front-loading print media tray, since applicant has not disclosed that the front loading tray solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a front loading tray.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent Publication No. 20040135106 as applied to claim 1 above, and further in view of U.S. Patent No. 6,206,594 (Elgee et al.).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claim 6, the numbered paragraph [0025] of U.S. Patent Publication No. 20040135106 discloses a sensor (16) and a display, but does not specifically state that information will be displayed on such display, as claimed.

The Elgee et al. patent discloses that it is well known to output a signal from a sensor (118) that is representative of the presence or absence of paper in a print media



support, send such signal to a computing device, and then display such information on a display, e.g., to allow a user to know when to load paper in the imaging apparatus. See e.g., column 6, line 66 to column 7, line 18 of Elgee et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide information from the sensor (16) of U.S. Patent Publication No. 20040135106 to a display when the paper is absent from a tray, as taught by Elgee et al.

***Allowable Subject Matter***

6. Claims 3-5, 10 and 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

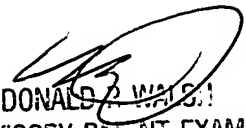
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Application/Control Number: 10/726,429

Page 9

Art Unit: 3653

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
DONALD A. WALCOTT  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600